



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,895	02/27/2002	Zhongze Bai	998050 PA1	7499

7590 09/19/2006  
ZHONGZE BAI  
14930 OKA ROAD # 53  
LOS GATOS, CA 95032

EXAMINER

DANIEL JR, WILLIE J

ART UNIT PAPER NUMBER

2617

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/083,895	<b>Applicant(s)</b> BAI, ZHONGZE	
	<b>Examiner</b> Willie J. Daniel, Jr.	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is in response to applicant's RCE amendment filed on 01 February 2006. **Claims 1-29** are now pending in the present application. This office action is made **Non-Final**.

#### *Continued Examination Under 37 CFR 1.114*

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01 February 2006 has been entered.

#### *Claim Objections*

3. **Claims 1, 3-9, 26, and 28** are objected to because of the following informalities:
  - a. **Claim 1** recites the limitation "...plurality of **entity**..." in line(s) 2 of the claim. The Examiner interprets as --plurality of **entities**-- and suggests that applicant clarify the claim language.
  - b. **Claim 3** recites the limitation "...said predetermined signal..." in line(s) 5 of the claim. There is insufficient antecedent basis for this limitation in the claim.
  - c. **Claims 3-9** recite the limitations "...in which said..." or "...and in which said..." in line(s) 1 of each claim. The Examiner suggests replacing the limitations with --wherein-- to clarify the claim language.

Art Unit: 2617

- d. **Claim 4** has been previously amended but the applicant failed to properly label the claim with a status identifier such as (Previously Presented). See MPEP § 714 and 37 CFR 1.121(c).
- e. **Claim 28** recite the limitation "...two ways communication..." in line 3 of the claim. The Examiner suggests replacing the limitation with --two way communication-- to clarify the claim language.

Appropriate correction is required.

- 4. **Claim 26** is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claim 26 is not been further treated on the merits.
- 5. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issues as listed above as well as any other issue(s) that are not listed.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 2, 12, and 25** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. **Claim 2** recites the limitation "...without using GPS, **receiving and restoring any data...**" in line(s) 16 of the claim.
- b. **Claim 12** recites the limitation "...without using GPS, **receiving and restoring any data...**" in line(s) 15-16 of the claim.

Regarding **claims 2 and 12**, the claims include a limitation that is not supported by the specification as originally filed. The applicant on pg. 12, line(s) 10-11 of remarks section states, "... (claim 2 line 16, description [0021] lines 2-3) ..." as a cited area of support for the claimed limitation. Upon reviewing the cited area and full description, the cited area **does not** support or convey the claim limitation "...receiving and restoring any data...". The applicant is advised to review the subject matter of the specification (see US pub description [0046] (i.e., pg. 10, [057])), which states, "...such non-GPS based method of determining location of mobile units... **has been well known** in industry...". The Examiner respectfully requests the applicant to provide page(s), line(s), and figure(s) of the instant application that

supports the limitation of the claim(s) and/or any supportive comment(s) to help clarify and resolve this issue(s).

- c. **Claim 12** recites the limitation "...to **calculate** bearing..." in line(s) 14 of the claim.

The applicant failed to provide in the remarks section page(s), line(s), and figure(s) of the instant application that supports the claimed limitation.

- d. **Claim 25** recites the limitation "...to independently **calculate** bearing..." in line(s) 16-17 of the claim. The applicant failed to provide in the remarks section page(s), line(s), and figure(s) of the instant application that supports the claimed limitation.

Regarding **claim 12**, the claim includes a limitation that is not supported by the specification as originally filed. The applicant is advised to review the subject matter of the specification (see abstract; pg. 3, [020], line 5; pg. 8, [048], line 5; pg. 9, [051], line 15....), which states language such as *to determine* or *generate bearing*. The Examiner respectfully requests the applicant to provide page(s), line(s), and figure(s) of the instant application that supports the limitation of the claim(s) and/or any supportive comment(s) to help clarify and resolve this issue(s).

7. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issue(s) as listed above as well as any other issue(s) that are not listed.

Art Unit: 2617

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. **Claim 1** recites the limitation "...its characteristic is..." in line(s) 5 of the claim. The claim recites language that is not clear and concise in particular the term "**its**" is not clearly defined in the claim(s) or instant application. As an example, the Examiner suggests replacing the limitation with phraseology such as --the method comprising:-- or other language as supported by the specification.
- b. **Claim 1** recites the limitation "...classified entity and every individual..." in line(s) 5 of the claim.
- c. **Claim 1** recites the limitation "...plurality of entity..." in line(s) 2 of the claim. The "...entity..." of the claim language refers to more than one type of "...entity...". For example, claim 1 recites "...**classified** entity..." in line(s) 6 of the claim and claim 2 recites "...**target** entity..." in line(s) 2 of the claim.

Regarding **claim 1**, the claim recites language that is not clear and concise. Applicant is advised to provide the **exact** terminology that relates to the claimed invention of the instant application. If the applicant considers the current language to be sufficient, the Examiner respectfully requests page(s), line(s), and/or drawing(s) of the instant application that supports the claim language and any supportive comment(s) to help clarify and resolve this issue(s).

9. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issues(s) as listed above as well as any other issue(s) that are not listed.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1-2, 5-8, 10, 12-14, 16-25, and 29** are rejected under 35 U.S.C. 102(a) as being anticipated by **Takahashi et al.** (hereafter Takahashi) (**US 6,097,313**).

Regarding **claim 1**, Takahashi discloses a method of directing a driver/vehicle (0108) which reads on the claimed “mobile user” with a vehicle-mounted unit (0201) which reads on the claimed “mobile tracking unit” to at least one of a plurality of service provider (0101, 0301) which reads on the claimed “entity” in a predetermined range (e.g., communication region 0107, P1) (see Figs. 1 and 5), its characteristic is

classified entities and every individual belongs to said classified entity (e.g., service provider 0101, 0301) is assigned an information kind/item (1412, 11) which reads on the claimed “unique target code” (see col. 10, lines 24-32; col. 8, lines 29-35; col. 14, lines 22-26, 54-62; Figs. 4 and 15B), where the driver selects the preferred service content provided by the service providers,



identifying said entity (0101, 0301) which said target code (1412, 11) represents by transmitting signal which carries said unique target code (1412, 11) (see col. 11, lines 36-42; col. 8, lines 29-35; Figs. 1, 3-7, and 15A-D)

said mobile tracking unit (0201) independently calculates selected signal by selecting target signal which has said target code (1412, 11) to represent said entity (0101, 0301), and displays said entity's direction (see col. 28, lines 16-25; col. 19, lines 33-40; Figs. 5 and 15C-D), where the navigation system uses a position sensing device such as a gyroscope to determine the position of the vehicle-mounted unit (0201) relative to the service provider which is visual via graphical display of a map.

Regarding **claim 2**, Takahashi discloses a method of claim 1, at least one target units (e.g., 0514, 0106, 0304) being installed on target entity (0101, 0301) and representing at least one target entity (0101, 0301), each of said target units (e.g., 0514) being adapted to broadcast a said target signal representative of said at least one target entity (0101, 0301) (see col. 8, lines 30-35, 57-64; col. 12, lines 1-15; col. 19, lines 33-40; Figs. 1-3 and 5-7), the method comprising:

assigning at least one information kind/item (1412, 11) which reads on the claimed "target code" to each of said plurality of target units (0514, 0106) to represent at least one said target entity (0101) for broadcasting by each target unit (0514, 0106) (see col. 10, lines 24-32; col. 8, lines 29-35; col. 14, lines 22-26, 54-62; col. 19, lines 33-40; Figs. 4-5 and 15B), where the driver selects the preferred service content provided by the service providers;

Art Unit: 2617

selecting which reads on the claimed “entering” at least one target code (1412) to said tracking unit (0201) as said mobile user's (0108) destination (see col. 13, lines 6-17; col. 14, lines 54-65; Figs. 1, 3-4);

receiving at least one beacon which reads on the claimed “broadcast signal” from at least one of said plurality of target units (0514, 0106) using said tracking unit (0201) (see col. 10, lines 61-67; col. 8, lines 29-35; Figs. 4, 8-9);

verifying said at least one broadcast signal using said target code (1412) and said tracking unit (0201) (see col. 11, lines 36-42; col. 8, lines 29-35; Figs. 1, 3-7; 15A-D);

if said broadcast signal matches said target code (1412), starting to calculate real-time navigation information comprising at least said target unit's (0514, 0106) bearing relative to said tracking unit (0201) by using said tracking unit (0201) bearing relative to said tracking unit by using said tracking unit to point-to-point detect said broadcast signal's direction without using GPS, receiving and restoring any data (see col. 28, lines 16-25; col. 14, lines 37-39; col. 11, lines 17-35; col. 13, lines 7-17; col. 13, line 59 - col. 14, line 9; Figs. 15A-D), where the navigation system checks the information for the destination (i.e., service provider) in which the navigation system uses a position sensing device such as a gyroscope (i.e., an alternative device instead of using GPS) to determine the position of the vehicle-mounted unit (0201) relative to the service provider which is visual via graphical display of a map;

displaying said map information which reads on the claimed “navigation information” using said tracking unit (0201) (see col. 14, lines 37-39; col. 20, lines 36-57; Figs. 15C-D), where the navigation system displays the mapping information, and

in which said navigation information comprises distance in real-time between said tracking unit and said broadcast signal's origin (see col. 14, lines 37-39; col. 20, lines 16-22, 43-45, 52-58; col. 28, lines 16-25; Figs. 15C-D), where the navigation system displays the mapping and distance.

Regarding **claim 5**, Takahashi discloses the method of claim 2, and in which said tracking unit (0201) is installed with mapping software and said tracking unit (0201) is adapted to graphically display the location of said target location relative to said tracking unit (0201) using said mapping software (see col. 20, lines 16-22, 35-57; col. 21, lines 25-34; Figs. 6 “ref. 0611”, 15C-D, 18).

Regarding **claim 6**, Takahashi discloses the method of claim 2, and in which said tracking unit (0201) is adapted to receive a plurality of signals from said plurality of target units (0106), each of said signals corresponding to said target code (1412) entered by said user (0108) (see col. 13, lines 6-17; col. 10, lines 24-32; col. 14, lines 54-62; Figs. 1-2, 4-5, 8-9), where the service providers of a category can provide information to the vehicle.

Regarding **claim 7**, Takahashi discloses the method of claim 2, and in which said tracking unit (0201) is adapted to receive a plurality of signals from a plurality of target units (e.g., 0514, 0106), corresponding to a plurality of target codes (1412) entered into said tracking unit (0201) (see col. 13, lines 6-17; col. 10, lines 24-32; col. 14, lines 54-62; Figs. 1-2, 4-5, 8-9), where the service providers of a category can provide information to the vehicle.

Regarding **claim 8**, Takahashi discloses the method of claim 2, and in which said tracking unit (0201) is adapted to graphically display said plurality of target units (e.g., 0514,

Art Unit: 2617

0106) (see Figs. 6-7, 15C-D), where the navigation system shows the service providers in an area.

Regarding **claim 10**, Takahashi discloses the method of claim 2, further comprising:

entering an information kind (1412) which reads on the claimed “group code” to said tracking unit (0201), said group code (1412) being representative of a predetermined group of target units (e.g., 0514, 0106) (see col. 13, lines 6-17; col. 14, lines 54-65; Figs. 1, 3-4);

receiving a plurality of broadcast signals from said target unit (e.g., 0514, 0106) using said tracking unit (0201) (see col. 10, lines 61-67; col. 8, lines 29-35; Figs. 4, 8-9);

verifying identity of each of said plurality of broadcast signals using said group code (1412) and said tracking unit (0201) (see col. 11, lines 36-42; col. 8, lines 29-35; Figs. 1, 3-7; 15A-D);

if said signals match said group code (1412), determining a bearing information for each of said predetermined group of target entities (0101) using said tracking unit (0201) (see col. 11, lines 17-35; col. 13, lines 7-17; col. 13, line 59 - col. 14, line 9; Figs. 15A-D), where the navigation system (see col. 14, lines 37-39) for checks the information for the destination in which the bearing information would be inherent;

displaying said map information which reads on the claimed “bearing information” for each of said group of target entities (0101) (see col. 14, lines 37-39; col. 20, lines 36-57; Figs. 15C-D), where the navigation system displays the mapping information.

Regarding **claim 12**, Takahashi discloses an information exchange system which reads on the claimed “system” for directing a user to locate at least one service provider

(0101) which reads on the claimed “target entity” from a plurality of target entities (0101, 0301) (see col. 19, lines 33-40; col. 8, lines 18-29; Figs. 1, 3, 5), comprising:

a plurality of target units (e.g., 0514) are installed on said target entities (0101, 0301) and adapted to represent said plurality of target entities (0101), each of said target units (e.g., 0514, 0106) (see col. 19, lines 33-40; col. 19, lines 33-40; Fig. 5) comprising:

a broadcast unit (e.g., 0514, 0106) adapted to broadcast a beacon which reads on the claimed “signal” carrying target code representative of a predetermined group of target entities (0101) (see col. 8, lines 18-29; Figs. 1, 3-5, 8-9), where the system provides information of the different service providers in a communication region;

at least one tracking unit (0201), said tracking unit (0201) (see Fig. 2) comprising:

an information input device (0208) which reads on the claimed “data entry unit” adapted to selects which reads on the claimed “enter” at least one target code (1412) entered by said user (0108) (see col. 11, lines 1-25; col. 14, lines 54-62; col. 13, lines 6-17; Figs. 2-4), where the user of the system selects the service provider;

a road-vehicle communication device (0202) which reads on the claimed “receiver unit” adapted to receive at least one signal from at least one target unit (e.g., 0514, 0106) and to determine if said signal matches said target code (1412) entered (see col. 14, lines 54-62; col. 13, lines 6-17; col. 8, lines 18-29; col. 15, lines 20-59; col. 11, lines 36-41; Figs. 2-4, 8-9), where the information content of the service providers is received based on the user selection which is distinguished (filtered);

a vehicle-mounted unit (0201) which reads on the claimed “direction-finding unit” adapted to calculate bearing of said signal relative to said receiver unit by using said

Art Unit: 2617

direction-finding (0201) unit to point-to-point detect said signal's direction without using GPS, receiving and restoring any data (see col. 28, lines 16-25; col. 11, lines 1-25; col. 13, lines 7-17; col. 13, line 59 - col. 14, line 9; col. 14, lines 37-39; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 2, 5-7, 15C-D), where the navigation system checks the information for the destination (i.e., service provider) in which the navigation system uses a position sensing device such as a gyroscope (i.e., an alternative device instead of using GPS) to determine the position of the vehicle-mounted unit (0201) relative to the service provider which is visual via graphical display of a map,

if said signal matches said target code (1412) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 2, 6-7, 15A-D);

an information output device (0207) which reads on the claimed "display unit" adapted to display the bearing of said target entity (0101) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 2, 6-7, 15C-D).

Regarding **claim 13**, the claim as applied to claim 12 is rejected for the same reasons as set forth above in the rejection of claim 3.

Regarding **claim 14**, Takahashi discloses the system of claim 12, wherein:

said data entry unit (0208) for said tracking unit (0201) is adapted to receive a plurality of target codes (1412) from said user (0108) (see col. 11, lines 1-25; col. 14, lines 54-62; col. 13, lines 6-17; Figs. 2-4), where the user of the system selects the type of service provider;

said receiver unit (0202) for said tracking unit is adapted to enter a plurality of target signals from a plurality of target units (e.g., 0514, 0106), and determines whether said plurality of target signals match any of said plurality of pre-loaded target codes (1412) (see

Art Unit: 2617

col. 14, lines 54-62; col. 13, lines 6-17; col. 8, lines 18-29; col. 15, lines 20-59; col. 11, lines 36-41; Figs. 2-4, 8-10), where the information content of the service providers is received based on the user selection which is distinguished (filtered);

said direction-finding unit (0201) is adapted to determine bearings of target signals matching said target codes (1412) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 2, 6-7, 15C-D);

said display unit (0207) is adapted to display all bearings of said plurality of target units (e.g., 0514) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45, 54-59; col. 20, lines 16-22; Figs. 2, 6-10, 15C-D).

Regarding **claim 16**, Takahashi discloses the system of claim 12, wherein each of said target units (e.g., 0514) is adapted to support a plurality of target entities (0101, 0102, 0103) within a predetermined range (see col. 10, lines 15-39; Figs. 1, 3, 5).

Regarding **claim 17**, Takahashi discloses the system of claim 16, wherein said broadcast unit (e.g., 0514, 0106) is adapted to broadcast a target signal comprising a plurality strings (0401) of descriptive codes (1412), each of said strings (0401) identifying at least one of a plurality of target entities (0101, 0301) supported by said target units (e.g., 0514, 0106) (see Figs. 1, 3-7, 15A-D).

Regarding **claim 18**, Takahashi discloses the system of claim 17, wherein:

said direction-finding unit (0201) is adapted to determine one of bearing with distance and bearing without distance of a plurality of target signals (see col. 11, lines 1-25; Figs. 2, 6 “0611”, 7 “0711”), where Fig. 6 shows the map display with distance information and direction to service provider and Fig. 7 shows the map display without distance information;

said display unit (0207) is adapted to display said one of bearing with distance and bearing without distance of said plurality of target units (see col. 11, lines 1-25; Figs. 2, 6 “0611”, 7 “0711”), where Fig. 6 shows the map display with distance information and direction to service provider and Fig. 7 shows the map display without distance information;

Regarding **claim 19**, Takahashi discloses the method of claim 1, wherein said tracking units (0201) is pre-loaded with a plurality of classification codes (0401) and specific target codes (1412), wherein every entity (0101) belongs to at least one of said classification codes, wherein said specific target codes (1412) are assigned based on a set of predetermined services which reads on the claimed “criteria” (see col. 10, lines 24-39; col. 13, lines 6-11; col. 14, lines 54-60; Fig. 4), where the service providers are in categories based on the service provided.

Regarding **claim 20**, Takahashi discloses the method of claim 19, wherein said set of predetermined criteria comprises perquisites which reads on the claimed “payment of fees” (see col. 10, lines 36-46; col. 15, lines 58-66).

Regarding **claim 21**, Takahashi discloses the method of claim 2, wherein said broadcast signals of said target unit (0106) combines target code (1412) with live messages, said live messages adapted to be displayed by said tracking unit (0201) to show information provided by said target entity (0101) (see col. 14, lines 22-26; col. 15, lines 38-45; col. 15, line 60 - col. 16, line 5; Figs. 2, 4, and 6-7).

Regarding **claim 22**, Takahashi discloses the method of claim 1, wherein said at least one broadcast signals comprise information from said plurality of target entities (0101, 0102,



Art Unit: 2617

0301) (see col. 14, lines 22-26; col. 15, lines 38-45; col. 15, line 60 - col. 16, line 5; Figs. 1, 4, 6-10).

Regarding **claim 23**, Takahashi discloses the method of claim 2, wherein said step of displaying comprises at least one of the following:

displaying of routing to said target location using north, south, west and east pointers (see col. 14, lines 38-39; Figs. 6 “ref. 0611”, 7 “0711”, 15C-D), where the navigation system has map information that shows the heading direction arrow on the display (0207);

displaying of a destination spot relative to the current position which reads on the claimed “present location” (see Fig. 15C-D);

displaying of turning direction (see col. 14, lines 38-39; col. 20, lines 16-22, 53-58; Figs. 6 “ref. 0611”, 7 “0711”, 15C-D), where the navigation system has map information that shows the heading direction arrow on the display (0207) in which the turning direction would be inherent;

displaying of distance to destination by varying color, intensity, size or numbers (see col. 21, lines 25-34; Fig. 7 “0711”).

Regarding **claim 24**, Takahashi discloses the method of claim 12, wherein said at least one broadcast signal comprises information content which reads on the claimed “data messages” corresponding to said target entities (0101) (see col. 13, lines 59-61; col. 14, lines 54-62; Figs. 4, 6-10).

Regarding **claim 25**, Takahashi discloses a information exchange system which reads on the claimed “system” for a direction finding network for a plurality of target locations

Art Unit: 2617

(0101, 0102, 0301) within a communication region (P1) which reads on the claimed “predetermined geographic region” (see Figs. 1, 3, 5-7, 10, 15C-D), comprising:

a plurality of target transmitters (e.g., 0106, 0514), each of said plurality of target transmitter (e.g., 0106, 0514) being installed on at least one of target location (0101, 0102, 0301) and adapted to broadcast a guiding signal (see col. 20, lines 16-22; col. 19, lines 33-40; Figs. 1, 3, 5-7, and 15C-D) comprising:

at least one target code (1412) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 2, 6-7, and 15A-D),

at least one relative location information (see col. 20, lines 16-22; col. 19, lines 33-40; Figs. 1, 3, 5-7, and 15C-D) comprises at least one of the followings:

bearing of geographic direction and distance between said target locations (0101) and said target transmitter (0106), both said target locations and said target transmitter’s latitude/longitude (see col. 28, lines 16-25; col. 11, lines 1-25; col. 13, lines 7-17; col. 13, line 59 - col. 14, line 9; col. 14, lines 37-39; col. 15, lines 38-45; col. 20, lines 16-22; col. 19, lines 33-40; col. 20, lines 16-22; Figs. 1-2, 5-7, 15C-D), where the navigation system checks the information for the destination (i.e., service provider) in which the navigation system uses a position sensing device such as a gyroscope (i.e., an alternative device instead of using GPS) to determine the position of the vehicle-mounted unit (0201) relative to the service provider which is visual via graphical display of a map,

a plurality of tracking unit (0201), each tracking unit (0201) (see Fig. 2) comprising:

a data entry unit (0208) adapted to enter a target code (1412) entered by a user (0108) (see col. 11, lines 1-25; col. 14, lines 54-62; col. 13, lines 6-17; Figs. 2-4), where the user of the system selects the type of service provider;

a receiver unit (0202) adapted to receive said guiding signals from said target transmitters (e.g., 0514, 0106) and to determine if one of said plurality of guiding signals matches said target code (1412) (see col. 14, lines 54-62; col. 13, lines 6-17; col. 8, lines 18-29; col. 15, lines 20-59; col. 11, lines 36-41; Figs. 1-10), where the information content of the service providers is received based on the user selection which is distinguished (filtered);

a direction-finding unit (0201) adapted to independently calculate map information which reads on the claimed "bearing information" of said target transmitter (e.g., 0514, 0106) relative to said tracking unit by using said direction-finding unit to point-to-point detect said guiding signal's direction without using GPS (see col. 28, lines 16-25; col. 14, lines 37-39; col. 11, lines 17-35; col. 13, lines 7-17; col. 13, line 59 - col. 14, line 9; col. 15, lines 38-45; col. 20, lines 16-22; Figs. 15A-D), where the navigation system checks the information for the destination (i.e., service provider) in which the navigation system uses a position sensing device such as a gyroscope (i.e., an alternative device instead of using GPS) to determine the position of the vehicle-mounted unit (0201) relative to the service provider which is visual via graphical display of a map,

upon a match between said target code (1412) and one of said guiding signals, based on said relative location information of said target location (0101) and of said target transmitter (1412) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45; col. 20, lines 16-22;

col. 28, lines 16-25; Figs. 2, 5-7, 15C-D), where the navigation system provides mapping information to the selected service provider;

a display unit (0207) adapted to graphically display the bearing of said target location (0101) (see col. 11, lines 1-25; col. 14, lines 38-39; col. 15, lines 38-45, 54-59; col. 20, lines 16-22; Figs. 2, 6-10, 15C-D).

Regarding **claim 29**, Takahashi discloses the system of claim 12, wherein at least one of said signals combines a target code (1412) with live messages, said live messages adapted to be displayed by said tracking unit (0201) to show information provided by a target entity (0101) associated with said target code (1412) (see col. 14, lines 22-26; col. 15, lines 38-45; col. 15, line 60 - col. 16, line 5; Figs. 2, 4, 6-7).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takahashi et al.** (hereinafter Takahashi) (**US 6,097,313**) in view of **Azizi et al.** (hereinafter Azizi) (**US 5,525,967**).

Regarding **claim 3**, Takahashi as applied to claim 2 discloses said tracking unit (0201) is adapted to broadcast an information item (e.g., via beacon) which reads on the claimed “wake-up signal” (see col. 11, lines 48-59; Figs. 1-2, 8-9), where the system has

Art Unit: 2617

information transmission and reception control unit (0514, 0106) that is a target to provide information of the service provider;

in which said target unit (0514), upon receiving said wake-up signal, is adapted to broadcast said predetermined signal (see col. 11, lines 48-59; Figs. 5 and 15A-D), where the target unit (0514) provides information of services. Takahashi does not specifically disclose having the feature in which said fixed target unit is adapted to vary its frequency of transmission based on predetermined criteria. However, the examiner maintains that the feature in which said fixed target unit is adapted to vary its frequency of transmission based on predetermined criteria was well known in the art, as taught by Azizi.

In the same field of endeavor, Azizi discloses the feature in which said fixed target unit is adapted to vary its frequency of transmission based on predetermined criteria (see col. 4, lines 32-41, 45-53; col. 3, lines 35-55; Fig. 1). Also, Azizi further supports said tracking unit is adapted to broadcast a wake-up signal (see col. 4, lines 30-41); and said target unit, upon receiving said wake-up signal, is adapted to broadcast said predetermined signal (see col. 4, lines 45-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Takahashi and Azizi to have the feature in which said fixed target unit is adapted to vary its frequency of transmission based on predetermined criteria, in order to employ technology that combines the capability of determining accurately both the distance and the direction of an individual or object being monitored relative to the transmission or monitoring point, and achieve this at a relatively low cost, as taught by Azizi (see col. 2, lines 3-9).

Regarding **claim 4**, the combination of Takahashi and Azizi discloses every limitation claimed, as applied above (see claim 3), in addition Takahashi further discloses the feature in which said target unit (e.g., 0514, 0106) is adapted to transmit a signal carrying a plurality of codes (1412), each code (1412) being representative of a predetermined target entity (0101) (see col. 13, line 59 - col. 14, line 9; col. 14, lines 54-60; col. 9, lines 10-17; Fig. 4), where the information kind (code) provides information of the related service providers.

**Claims 9 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takahashi et al.** (hereafter Takahashi) (**US 6,097,313**) in view of well known prior art (**MPEP 2144.03**).

Regarding **claim 9**, the combination of Takahashi and Snapp discloses every limitation claimed, as applied above (see claim 1), in addition Takahashi further discloses said tracking unit (0201) and said fixed target units (0106). Takahashi does not specifically disclose the feature jointly determine a better frequency to communicate. However, the examiner takes official notice of the fact that it was well known in the art to jointly determine a better frequency to communicate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takahashi by specifically jointly determine a better frequency to communicate, for the purpose of communicating between the road-vehicle communication device and the vehicle-mounted unit (0201) (see col. 10, lines 61-64).

Regarding **claim 15**, the combination of Takahashi and Snapp discloses every limitation claimed, as applied above (see claim 12), in addition Takahashi further discloses

Art Unit: 2617

said tracking unit (0201) and said fixed target units (0106). Takahashi fails to disclose the feature jointly determine a more appropriate frequency for communication based on predetermined quality criteria. However, the examiner takes official notice of the fact that it was well known in the art to jointly determine a more appropriate frequency for communication based on predetermined quality criteria.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takahashi by specifically jointly determine a more appropriate frequency for communication based on predetermined quality criteria, for the purpose of communicating between the road-vehicle communication device and the vehicle-mounted unit (0201) (see col. 10, lines 61-64).

**Claims 11 and 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takahashi et al.** (hereafter Takahashi) (US 6,097,313) in view of **Meadows et al.** (hereinafter Meadows) (US 6,716,101 B1).

Regarding **claim 11**, Takahashi as applied above (see claim 10) further discloses the feature displaying said bearing information for said target entity (0201) (see col. 14, lines 37-39; col. 15, lines 36-45; col. 20, lines 36-57; Figs. 2 “ref. 0207”, 6-7, 15C-D), where the navigation system displays the mapping information on the display screen (information output device 0207) (see col. 13, lines 10-11). Takahashi fails to disclose having the feature entering a second code, representative of one target entity within said predetermined group of target entities. However, the examiner maintains that the feature entering a second code,

representative of one target entity within said predetermined group of target entities was well known in the art, as taught by Meadows.

In the same field of endeavor, Meadows discloses the feature entering a second code, representative of one wireless device (10, individual) which reads on the claimed "target entity" within said list which reads on the claimed "predetermined group of target entities" (see col. 3, lines 42-47; col. 5, line 42 - col. 6, line 22; Figs. 1, 4a-b, 5a-b).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Takahashi and Meadows to have the feature entering a second code, representative of one target entity within said predetermined group of target entities, in order to track the location of wireless devices, as taught by Meadows (see col. 3, lines 42-43).

Regarding **claim 27**, Takahashi discloses the system of claim 25, wherein at least one of said target transmitters (e.g., 0514, 0106) is deployed in a local fixed signal site (hereinafter "LFS") to represent a plurality of target locations (0101) (see Figs. 1, 3, 5-7),

wherein said LFS (0104) is programmed to store said relative location information about its represented target locations (0101) and to send multiple signals to represent all those target locations (0101) (see col. 10, lines 19-32; col. 11, lines 34-44; Figs. 1, 3, 5-7),

wherein when one signal matches said target code which said tracking unit (0201) entered searches any one of these target locations (0101) (see col. 14, lines 38-39, 54-62; col. 15, lines 20-45; Fig. 1, 3-7, 15B-D),

said tracking unit (0201) communicates with said LFS (0106) display the bearing and distance between said tracking unit and the target location (0101) (see Figs. 15A-D).



Art Unit: 2617

Takahashi does not specifically disclose having the feature said tracking unit triangulate. However, the examiner maintains that the feature said tracking unit triangulate was well known in the art, as taught by Kennedy.

Meadows further discloses the feature said tracking unit triangulate (see col. 4, lines 40-51), where the system uses a positioning technique such as triangulation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Takahashi and Meadows to have the feature said tracking unit triangulate, in order to track the location of wireless devices, as taught by Meadows (see col. 3, lines 42-43).

Regarding **claim 28**, the combination of Takahashi and Meadows discloses every limitation claimed, as applied above (see claim ?), in addition Takahashi further discloses the system of claim 27, wherein a plurality of LFS's (0106) are installed and networked together to represent a plurality of communication regions (P1) which reads on the claimed "cell regions" (see col. 14, lines 38-39; Figs. 1, 3, 5-7), where the navigation system provides mapping information,

wherein said tracking unit (0201) is two way communication with said LFS and directed to a target location which is not in a first cell region by using hand-off by one a first LFS to a second LFS from a first cell region to a second cell region (see Figs. 1, 3, 5-7, and 15A-D), where the vehicle (0108) moves between communication regions (P1-3),

such that said tracking unit (0201) uses said networked LFS's (0106) to navigate all location where this networked LFS (0106) is deployed (see col. 14, lines 38-39; Figs. 1, 3, 5-7, 15C-D), where the navigation system provides mapping information.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.
13. The Examiner requests applicant to provide support for the amended claim language and any further amended claim language.
14. Regarding claims 9 and 15, the applicant did not traverse the Examiner's assertion of official notice stated in the action mailed 25 July 2005. As a result, the Examiner's statement is hereby taken to be well-known admitted prior art or common knowledge because the applicant failed to traverse the Examiner's assertion of official notice. Therefore, the applicant must agree with the Examiner's assertion of official notice.

***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. Landi (WO 98/01769) discloses a "System for Locating Moving Vehicles or Objects".
  - b. Ayed (US 6,405,125 B1) discloses a "Parked Vehicle Locator".
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR  
10 September 2006

*Marsha D Banks-Harold*  
MARSHA D. BANKS-HAROLD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600